Sample Design for Internet Panel Surveys

Methodological Seminar
Kaunas University of Technology (KTU)
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Background

- **Social Science Research Institute, University of Iceland**
  - Academic research institute under the auspices of three faculties of the University of Iceland, Faculty of Social and Human Sciences, Faculty of Social Work, and Faculty of Political Science
  - 30 year experience of survey research practices
  - Recruitment of the SSRI online panel started in 2010
  - SSRI online panel is a probabilistic internet panel of 7,000 individuals
Objective of visit

• Evaluation of possibilities of creating a high quality probabilistic online panel in Lithuania, looking at:
  – General survey practices in Lithuania
  – Internet penetration and usage
  – Available sampling frames
  – Likelihood of compliance
  – The most feasible approach
What is a probabilistic online panel?

According to ISO 26362 - Access Panels in Market, Opinion, and Social Research, an online panel is defined as:

“A sample database of potential respondents who declare that they will cooperate with future [online] data collection if selected” (International Organization for Standardization 2009).
Why create online panels?

- Declining response rates in general population surveys
- Increasing costs of face to face surveys
- Problems with telephone surveys – increased costs and declining response rates
  - Caller ID
  - Landlines replaced with mobiles, leading to increased costs

Is ICT – Information communication technology the solution?
Main obstacles to general population web surveys

• Coverage problems due to:
  – Internet penetration
  – Internet usage
• Lack of a population frame

Probabilistic online panels
Challenges in building a new national online panel

1. Obtaining and contacting a representative sample to invite
   - List of individuals
   - List of addresses
   - Random route methodology

2. Providing access to potential participants
   - Provide internet access
   - Mixed mode data collection

3. Motivation of potential participants
   - Persuasive communication
   - Incentives / lotteries
## European probability based panels

<table>
<thead>
<tr>
<th>Panel</th>
<th>Description</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>LISS</td>
<td>Longitudinal Internet Studies for the Social Sciences in the Netherlands</td>
<td><a href="http://www.lissdata.nl/lissdata/">http://www.lissdata.nl/lissdata/</a></td>
</tr>
<tr>
<td>GIP</td>
<td>German Internet Panel in Germany</td>
<td><a href="http://reforms.uni-mannheim.de/internet_panel/home/">http://reforms.uni-mannheim.de/internet_panel/home/</a></td>
</tr>
<tr>
<td>ELIPSS</td>
<td>Etude longitudinale par internet pour les science sociales in France</td>
<td><a href="https://www.elipss.fr/elipss/recruitment/">https://www.elipss.fr/elipss/recruitment/</a></td>
</tr>
<tr>
<td>SSRI panel</td>
<td>Social Science Research Institute Online Panel in Iceland</td>
<td><a href="http://fel.hi.is/online_panel">http://fel.hi.is/online_panel</a></td>
</tr>
</tbody>
</table>
Recruitment and maintenance of online panels

<table>
<thead>
<tr>
<th>Sample selection</th>
<th>Incomplete sampling frames</th>
<th>Problems</th>
<th>Measures and procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment/fieldwork</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First contact</td>
<td>Non-contact</td>
<td>Non-response (unit-/item non-response)</td>
<td>Monetary incentives/lotteries per wave; Reminder strategy,</td>
</tr>
<tr>
<td>Interview Compliance</td>
<td>Interview Rejection</td>
<td></td>
<td>Mode-switch option (offline- online)</td>
</tr>
<tr>
<td>Recruitment Interview</td>
<td>Panel Rejection</td>
<td></td>
<td>Helpdesk / panel portal</td>
</tr>
<tr>
<td>Registration Survey</td>
<td>Non-response (unit-/item non-response)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surveys</td>
<td>Non-response (unit-/item non-response)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development</td>
<td>Attrition</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Advance letters, contact cards, visits, phone calls, experienced interviewers. Incentives and tablets or possibly choice of mode (online or offline).

Invitation, prepaid monetary incentives by mail, if used; reminder strategy, mixed-mode or unimode.

Monetary incentives/lotteries per wave; Reminder strategy, Mode-switch option (offline- online).
An example from Iceland

SSRI ONLINE PANEL
Recruitment
SSRI online panel

• The SSRI has not received any special funding for building the online panel
• Samples are drawn from the National Register (simple random samples)
• Recruitment has been done through many different telephone surveys with random samples of the general population – where the interviews have concluded with an invitation/request to take part in the panel.
• Over the last five years 24,133 individuals 18 years and older have been invited to take part. 13,114 have accepted, or 54.3%.
• Today the panel includes around 7,000 active panelists
Composition biases - access SSRI online panel

- 96.6% of those contacted claimed to have internet access
  - Average age of those who did not have access was 72 years (3.4%)
  - Average age of those who did have access was 49 years (96.6%)
## Composition biases – acceptance of agegroups

SSRI online panel

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 to 24 years</td>
<td>64%</td>
<td>36%</td>
</tr>
<tr>
<td>25 to 34 years</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>35 to 44 years</td>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>45 to 54 years</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>55 to 64 years</td>
<td>52%</td>
<td>48%</td>
</tr>
<tr>
<td>65 to 74 years</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>75 years and older</td>
<td>22%</td>
<td>78%</td>
</tr>
</tbody>
</table>
Composition biases – gender and acceptance

SSRI online panel

Male

- Yes: 52%
- No: 48%

Female

- Yes: 57%
- No: 43%
Composition biases – educational level and acceptance - SSRI online panel

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not known</td>
<td>46%</td>
<td>54%</td>
</tr>
<tr>
<td>Primary/lower secondary</td>
<td>59%</td>
<td>41%</td>
</tr>
<tr>
<td>Upper secondary</td>
<td>58%</td>
<td>42%</td>
</tr>
<tr>
<td>University</td>
<td>67%</td>
<td>33%</td>
</tr>
</tbody>
</table>
Composition biases – political orientation and acceptance - SSRI online panel

- Bright future: 62% Yes, 38% No
- Progressive Party: 55% Yes, 45% No
- Independence Party: 55% Yes, 45% No
- Social Democrats: 62% Yes, 38% No
- Left-Green Movement: 61% Yes, 39% No
- Pirates: 60% Yes, 40% No
- Would not vote: 51% Yes, 49% No
- Other: 48% Yes, 52% No
Surveys
SSRI online panel

• Random stratified samples drawn from panel
• Researchers pay for data collection (and analysis if that‘s required)
• Omnibus surveys are sent out approximately every other month
• Ad hoc surveys when requested
Mode experiments SSRI Online Panel
PARALLEL TELEPHONE AND ONLINE SURVEYS
Methodology – Parallel Surveys
Presidential elections 2012

- Telephone survey
  - Sample:
    - SRS from National Register
    - Size: 966
  - Response rate – 57%
  - Data collection
    - June 9th–18th 2012
    - CATI omnibus
  - Weighting
    - Sex, age, area of residence and education

- Online survey
  - Sample:
    - Stratified (by gender, age and area of residence) random sample from panel (recruited by phone)
    - Size: 969
  - Response rate – 59%
  - Data collection
    - June 9th–19th 2012
    - Online – 2 reminders
  - Weighting
    - Sex, age, area of residence and education
Parallel surveys and election results

- Þóra Arnórsdóttir: 33,2% (Elections), 33,5% (Telephone), 40,4% (Online panel)
- Ólafur Ragnar Grímsson: 52,8% (Elections), 53,3% (Telephone), 43,6% (Online panel)
- Herdis Þorgeirsdóttir: 2,6% (Elections), 3,4% (Telephone), 4,2% (Online panel)
- Hannes Bjarnason: 1,0% (Elections), 0,4% (Telephone), 0,4% (Online panel)
- Ari Trausti Guðmundsson: 8,6% (Elections), 7,4% (Telephone), 7,2% (Online panel)
- Andrea J. Ólafsdóttir: 1,8% (Elections), 1,9% (Telephone), 4,2% (Online panel)
Background comparison (unweighted samples)

**Education (*)**

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Statistics Iceland</th>
<th>Telephone</th>
<th>Online panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>33,9%</td>
<td>37,0%</td>
<td>48,5%</td>
</tr>
<tr>
<td>Upper secondary education</td>
<td>36,8%</td>
<td>37,4%</td>
<td>36,1%</td>
</tr>
<tr>
<td>Compulsory education</td>
<td>29,4%</td>
<td>25,6%</td>
<td></td>
</tr>
</tbody>
</table>

**Employment status (ns.)**

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Statistics Iceland</th>
<th>Telephone</th>
<th>Online panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>81,3%</td>
<td>80,1%</td>
<td>82,8%</td>
</tr>
<tr>
<td>Not employed</td>
<td>18,7%</td>
<td>19,9%</td>
<td>17,2%</td>
</tr>
</tbody>
</table>
Interaction between education and mode
Percentage voting for incumbent president (weighted results)

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Online Panel</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsory education</td>
<td>42.3%</td>
<td>72.6%</td>
</tr>
<tr>
<td>Upper secondary education</td>
<td>54.3%</td>
<td>56.9%</td>
</tr>
<tr>
<td>University</td>
<td>42.5%</td>
<td>28.8%</td>
</tr>
</tbody>
</table>

Likelihood Ratio $X^2 = 9.107; df = 2; p = .011$
Political orientation

How did you vote in the general election in 2009

Progressive Party
- Elections 2009: 10,3%
- Telephone: 11,9%
- Online panel: 14,8%

Independence Party
- Elections 2009: 23,7%
- Telephone: 22,9%
- Online panel: 26,9%

Liberal Party
- Elections 2009: 2,2%
- Telephone: 1,3%
- Online panel: 2,5%

Citizens' Movement
- Elections 2009: 7,2%
- Telephone: 5,0%
- Online panel: 4,5%

Democratic Movement
- Elections 2009: 0,6%
- Telephone: 0,0%
- Online panel: 0,2%

Social Democratic Alliance
- Elections 2009: 29,8%
- Telephone: 31,9%
- Online panel: 37,8%

Left-Green Movement
- Elections 2009: 21,7%
- Telephone: 23,4%
- Online panel: 21,3%
Methodology – Parallel Surveys
General elections 2013

• Telephone survey
  • Sample:
    - SRS from National Register
    - Size: 1,850
  • Response rate – 60%
  • Data collection
    - April 18th-23rd 2013
    - CATI
  • Weighting
    - Sex, age, area of residence and education

• Online survey
  • Sample:
    - Stratified (by gender, age and area of residence) random sample from panel (recruited by phone)
    - Size: 2,000
  • Response rate – 64%
  • Data collection
    - April 17th-23rd 2013
    - Online – 3 reminders
  • Weighting
    - Sex, age, area of residence and education
Parallel Surveys - General elections 2013

- Independence Party: 27.4% (Telephone), 26.7% (Online), 22.5% (Elections 2013)
- Progressive Party: 23.7% (Telephone), 25.2% (Online), 22.5% (Elections 2013)
- Social Democratic Alliance: 14.3% (Telephone), 12.9% (Online), 13.0% (Elections 2013)
- Left-Green Movement: 12.3% (Telephone), 9.0% (Online), 10.9% (Elections 2013)
- Bright Future: 8.3% (Telephone), 7.5% (Online), 7.1% (Elections 2013)
- Pirates: 6.5% (Telephone), 6.4% (Online), 5.1% (Elections 2013)
- Other: 14.6% (Telephone), 11.8% (Online), 10.5% (Elections 2013)
Reflections about composition biases

- Overrepresentation of university educated people in surveys in general, but especially in online panels in Iceland
- A political bias in the online panel – towards the left
- Can or should weighting be used to correct for political bias?
Online probabilistic panel in Lithuania?

COMPARISON BETWEEN ICELAND AND LITHUANIA
Population and Internet Penetration

Population: 333,135
Area: 103,010 km²
Internet penetration: 96.5%
Register of named individuals

Population: 3,008,287
Area: 65,300 km²
Internet penetration: 68.5%
Register of addresses?

http://www.worldometers.info/world-population/population-by-country/
http://www.internetworldstats.com/stats.htm
How important is it for you to live in democratically governed country?
Democratic participation according to ESS 2012

- Voted in last national election: Lithuania - 6%, Iceland - 54%
- Signed petition last 12 months: Lithuania - 3%, Iceland - 56%
- Worn or displayed campaign badge/sticker last 12 months: Lithuania - 2%, Iceland - 44%
- Worked in another organisation or association last 12 months: Lithuania - 3%, Iceland - 40%
- Boycotted certain products last 12 months: Lithuania - 2%, Iceland - 33%
- Contacted politician or government official in last 12 months: Lithuania - 8%, Iceland - 26%
- Taken part in lawful public demonstration last 12 months: Lithuania - 2%, Iceland - 18%
- Worked in political party or action group last 12 months: Lithuania - 4%, Iceland - 10%
Recommendations / ideas

• Start with a pilot study
  – Choose software
  – Choose sampling frame – register of addresses
  – Strong emphasis on introducing the project and its purpose
  – Introduce incentives
  – Test for mode effects

• Possibly invite those who take part in the next waves of ISSP and ESS to take part in an online panel / mixed mode panel

• Key is to have manpower to manage the panel and efficient software